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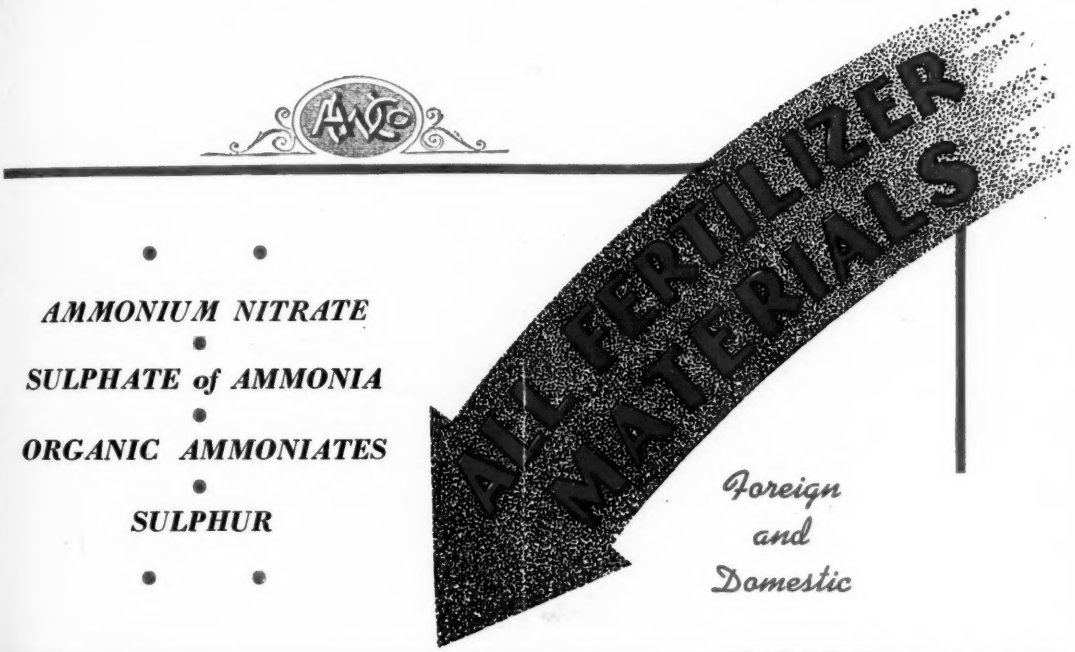

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See page 25

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Vol. 99 JULY 31, 1943 No. 3

Fertilizer Pricing Problems*

By C. G. GRAN

Head, Agricultural Chemicals Section, Office of Price Administration, Washington, D. C.

PRICE control may be bitter medicine and we may not relish the taste of it, or the way it is administered, but, under one guise or another, we probably shall have to take it for some time to come—either take it and make the best of it, or drink the much headier draught labeled "Inflation," to awake some fine morning with a lulu of a headache and the world in chaos. Remembering in particular the write-off of inventories that took place following the First World War, I am sure you all will agree that the dose of price control is much more preferable than the inflationary binge.

Of course, price control alone will not prevent ruinous inflation. No one nowadays kids himself with that mistaken notion, leastwise no one intimately concerned with price control. We must have all the parts of our stabilization program functioning effectively to win this war on the economic front at home.

Assuming that all parts of our stabilization program do function effectively during this next fertilizer year, what may we expect in regard to prices of fertilizers and of fertilizer materials?

Well, first of all, we of the Agricultural Chemicals Section of the Office of Price Administration—I am speaking for my associates as well as myself—cannot see any valid reason as yet for any general increase in prices anywhere along the line. However, certain problems do merit serious consideration. I shall take them up in order, beginning first with the raw materials at the producers' level.

Nitrate of Soda. Should "we the poeple" decide, through our elected representatives, that *all* subsidies are economically unsound, and banish them entirely from our governmental program, we can expect either a curtailment of importations or that we shall have to pay appreciably more for that portion of our supply of soda that is brought into this country. However, I for one do not anticipate that the resistance to subsidization will build up to a decree that bans any and all subsidies. Certainly there is a time and a place for everything, including subsidies, and I do not believe we will go so far as to eliminate the ones that have proven economically sound and which can be as easily applied as the one that brings us imported soda at a stablilized price.

Sulphate of Ammonia as you well know is a by-product of the destructive distillation of coal. Here certain factors of increased costs—coal, labor, and acid—build pressure against the ceilings established on the products and by-products of this operation. However, these products and by-products are so numerous and so involved from the cost accounting angle, and sulphate of ammonia is such a relatively small portion of the total national dollar volume of the commodities involved, that I do not believe a fair, just and equitable share of any attempted price relief can be worked out and applied to ammonium sulphate. Even if it could be done, I doubt that it would mean anything more than a gesture in the face of the contemplated supplies of inorganic nitrogen materials for the coming year. Certainly, the OPA has no desire to work in the realm of fancy from now on.

* An address before the Annual Convention of the National Fertilizer Association, Hot Springs, Va., June 23, 1943.

Prices of nitrogen solutions should not exceed the ceilings established for them under the General Maximum Price Regulation during March, 1942, and no upward revision of maximum prices for ammonium nitrate is contemplated.

A year ago we were receiving letters and copies of letters from mixers who used appreciable quantities of *organic nitrogen materials* in their mixed goods, the general tenor of the communications being that it wasn't fair for OPA to freeze retail prices for mixed goods while allowing the cost of materials to "skyrocket." Organic nitrogen materials were indicated as a typical example, the implication being that producers' prices for all fertilizer materials had risen in relatively equal proportion. This was manifestly absurd to anyone familiar with prices of materials and the proportions and importance of the various materials used in mixed goods. However, many of the people to whom original copies of the letters were sent were none too familiar with fertilizer operations, and the conclusions they formed were none too generous in regard to OPA's handling of the matter.

Now that a roll-back or lowering of maximum prices of certain nitrogenous organic materials has been proposed by OPA, many of the same buyers who complained so vociferously about high prices a year ago are again sending letters and copies of letters stating, in effect, "For God's sake, don't let OPA do anything to jeopardize all possible production of organics." There the matter rests at present, with some producers having claimed that the proposed lower prices will curtail production as much as from 30 to 50 per cent, and with OPA busily engaged in gathering and examining additional facts and figures to determine whether the claim can be substantiated in any degree.

Phosphate rock miners are having their troubles too—troubles that I do not believe will be easily resolved. However, we have not had any facts and figures presented to us yet that would indicate a general upward revision of rock ceilings. As old rock contracts expire and are replaced with new ones at or near the ceilings, the question naturally arises as to whether the increased costs of operation have exceeded or threaten to exceed the increase in returns. Evidence to date for the industry as a whole does not indicate an undue squeeze on profits below normal; consequently no increase in price ceilings seems to be indicated.

Superphosphate is the "guts" of the fertilizer industry in this country. We look for some trouble here, not so much from a price standpoint *per se* as from our relationships with the industry and with the other government war agencies that are interested primarily in maximum production of "super" and of wartime food and fiber crops.

All of us know how "super" was handled—or should I say mishandled—during the so-called normal period before the war effected a changeover from a buyers' to a sellers' market.

You can realize, I am sure, how difficult it was for us to work out a system of price controls for this commodity without having clearly-defined standards of pricing as an historical basis upon which to build. You must remember, too, that it is impossible for the Office of Price Administration even to attempt to assure every manufacturer a profit on every commodity he makes or may elect to produce—that it is particularly difficult for us to assure him of a profit on a commodity that he has sold customarily and normally at very little profit, sometimes at no profit at all, and frequently at a loss (depending, of course, upon how you may choose to apportion the costs and to add them up).

Trouble comes when an acidulator finds himself reluctant to meet the requirements of the mixers he, in normal times, eagerly solicited and served. He may figure he now can use a larger proportion of his own production for his own mixed goods or for direct sale than he formerly did, and that it is more attractive for him to do so from a price and profit point of view. Any blame, he figures, can properly be shifted to price control which prevents him from making the same or more profit on bulk sales as he now enjoys when selling it in his mixed goods—an equilibrium he seldom if ever has had before.

Trouble comes, too, when, due to the exigencies of wartime food and fiber production, producers are requested to ship into areas they do not ordinarily serve.

What the general answer to these two problems is, if there is any, frankly, I do not know. I don't believe any satisfactory overall solution can be found. It would be absurd to exempt all essential items from price control just because they are essential. Therefore, it seems to me we shall have to work these problems out as rapidly as we can on an individual basis, first demonstrating that unless proper price relief is granted, a condition of local shortage will ensue in a commodity vital to the war effort. This is

quite frequently difficult to do—to show that if one source of supply should fail too market area, other sources customarily serving it cannot make good the shortage, or that no satisfactory substitute is available.

Let us hope that, in respect to these problems, the industry does not lose its long-range point of view. While some segments of our population are making considerable sacrifices, even to that of life itself, it is sometimes difficult to be patient with a narrow, selfish point of view that can see no farther than immediate gain.

Potash. Maximum Price Regulation 404 became effective June 18, spelling out the pricing structure of our potash industry and establishing as maxima the prices that have been in effect since 1937. No increase is indicated here as the producers probably will not have to absorb increased costs beyond those they already have absorbed. The regulation does, however, roll back prices at which imported potash shall be sold to fertilizer mixers to the prices fixed for potash produced in the United States and sold at comparable times, that is, the discount period and the spot period. So, if any of you take foreign potash under allocations, you won't have to pay more for it than other mixers are paying at the same time for domestic potash.

Retail Prices

Now to move to the *retail level.* As you know, maximum prices of mixed goods, superphosphate, and potash, to dealers and to consumers, are established by Revised Maximum Price Regulation 135 and, for ammonium phosphate, castor pomace, calcium cyanamid, fish meal, fish scrap, nitrate of soda, nitrate of soda-potash, sulphate of ammonia, and urea compound by Revised Maximum Price Regulation 108.

MPR-135 established maximum prices for each individual operator according to the prices each individual operator had posted or in effect during the base period, February 16 to 20, 1942. The regulation was revised, effective January 4, 1943, to allow for certain increased and unabsorbable costs such as transportation by rail of phosphate rock and sulphur, increased costs of cotton bags, elimination of relatively low-cost nitrogen solutions and substitution therefor of higher-cost materials, and the increased cost of organics.

Regulation 108 merely established wholesale and retail margins for the nitrogen materials sold as such, and was revised to allow for greater movement through warehouses due to allocations, etc.

Our impression in Washington is that roughly 60 per cent of the industry has a fair degree of understanding of these retail regulations, that about 20 per cent is aware of the regulations but has only a vague understanding of what they are all about, and that the remaining 20 per cent presumably has never even heard of the regulations. Many of the small companies, for example, seem to find it difficult to understand that they are frozen to what they, individually, were doing during the base period designated in MPR-135. They evidently assume that the large companies, having staffs of price schedule experts, accountants, and lawyers, can calculate maximum prices correctly and that all they, the little operators, need do is to adopt the prices in the schedules of their larger competitors and thereby play safe. This, of course, is a mistaken notion, likely to cause trouble as OPA's enforcement division becomes increasingly active. It doesn't worry us too much for the present, however, because we don't believe fertilizer price ceilings will be widely violated so long as the majority of the industry abides by the rules.

We always have striven to make our fertilizer regulations as simple and workable as possible. We are going to continue to do so. One way we might do this is to revise the retail regulation as to mixed goods so that it would establish specific dollars-and-cents maximum prices for each and every authorized grade in each pricing zone or area. We are considering this step and for three reasons:

1. We are directed to do so by the policy-making officials of OPA who want specific dollars-and-cents ceilings at all levels of distribution for all commodities and services under price control, as a means to clearer understanding and enforcement.

2. Self defense. Budgetary and personnel restrictions make it impossible for us with our very limited staff to clear proposed prices and price schedules in time to be of proper service to you and to your customers. We are still writing letters today straightening out prices that were filed with us back in January and February. The setting of over-all dollars-and-cents ceilings for each grade and kind in each territory would relieve much of this delay.

3. Last, but not least, we believe that you and your farmer customers will find such a dollars-and-cents regulation much more practical and workable.

How shall we do it? Frankly, I don't know all the answers. When we first began to think about it some months ago, the task seemed

hopeless. How to set specific dollars-and-cents maximum prices without either raising or lowering them seemed an impossibility. Now, however, we believe it can be done, at least in most of the sales areas.

To give you a rough indication of how we are thinking, let's say that in some areas the maximum prices might be established for each authorized grade on a time price, delivered-to-the-farm basis with certain minimum discounts allowed for cash, cash within certain periods, taking delivery at a dealer's warehouse or at the nearest siding, etc. Provisions would be incorporated whereby a manufacturer might make some or all of his sales on an f.o.b. plant or warehouse basis. These mximum prices might be established for goods with nitrogen derived entirely from chemical sources, and with a differential allowed for natural organic content of varying degrees, just as a similar differential might be established for sulphate of potash when it replaces muriate of potash. Differentials would also be established for units of N, P and K so that, if a new grade was authorized for that territory, manufacturers would have no trouble in figuring the correct ceiling price, and would not have to wait while we put through an amendment to the regulation.

As to *bags*—and here I remind you that in this informal "shop talk" I am not making any promises or commitments other than to strive to keep our work simple and practical—we are thinking of one price differential between goods in paper and goods in textile bags. We are thinking of putting all textile bags, new or used, on the same level because, as we see it now, all textile bags will cost you about the same. If you are able to get burlap bags at all, they will cost, probably, just about the same as cotton bags.

Prices for 1943-44

And now as to *prices* themselves for the *1943-44 fertilizer year*. We'd like to tell you by July 1 or even before that exactly where you stand. But, gentlemen, that's a physical impossibility. I don't see much chance of an increase—there's some possibility of a slight decrease in some areas. My guess would be that in general they will remain about the same. I'm speaking of legal, maximum prices, of course—lower prices may be changed!

You see, before we can determine whether there should be any change in maximum consumer prices, we must weigh all the factors of increased costs of operation such as labor, transportation, handling of materials, etc., against any factors of decreased costs that might occur such as lessened sales expense, the reappearance of nitrogen solutions, etc., and compare the net result with the profit position of the industry as a whole for each regional territory. That all takes time, and, considering the fact that many of the essential figures won't be available to us until late August or early September, you can't expect much in the way of anything definite from us until late September or October, much as we would like to give the news to you now, and much as you would like to have it now.

I've mentioned *profits*. That seems to be a sore subject right now. OPA has been accused of trying to regulate profits instead of prices. Well, how you can control prices without due regard to normal and abnormal profits, I can't see. But, perhaps I'd better let OPA Administrator Prentiss Brown take over this part of the talk. Appearing before the Select Committee of the House of Representatives to Investigate Executive Agencies, he presented this statement on June 17:

"The Price Administrator is required, by the Emergency Price Control Act of 1942, to establish maximum prices which are 'generally fair and equitable,' both to producers and to consumers. This is a continuing responsibility. Wherever maximum prices were originally established, through error, at levels that were either too high or too low to be generally fair and equitable, he must act to correct them. Similarly, whenever conditions have so changed that the levels at which maximum prices were originally established have ceased to be generally fair and equitable, the Administrator must act to make them so. He must raise maximum prices that have come to be too low. He must reduce maximum prices that have come to be too high.

"In taking such action, the Administrator was explicitly directed by Section 2 (a) of the Act to 'give due consideration to the prices prevailing between October 1 and October 15, 1941,' and to 'make adjustments for such relevant factors,' among others, as 'general increases or decreases in costs' and 'general increases or decreases in profits earned by the sellers of the commodity or commodities during and subsequent to the year ended October 1, 1941.'

"The Administrator's power to raise and to lower maximum prices was reinforced by Executive Order 9250 which delegated to him the authority conferred upon the President by the Act of October 2, 1942, to make adjustments with respect to prices 'to the extent

(Continued on page 22)

Production Increase Through Supervision*

By M. C. THOMSEN

MANY of the workers brought daily into industry to meet demands of wartime production are inexperienced. All come under supervision. When supervision is good, production is good. When there exists between the supervisor and the supervised the kind of personal relationship that promotes cooperation, the effect is observed in the production record.

In an industrial organization the fundamental relationships between supervisors and workers can contribute mightily to production and, conversely, can detract from the potential effort of a working unit. Not all supervisors are alive to the importance of maintaining such relationships, or they may be so occupied or preoccupied with the pressure of today's demands that they overlook or neglect the personal considerations. When this happens production suffers, no matter whether the oversight occurs in a large or small organization, for a large concern obviously is composed of departmental units.

Cooperation rewards the supervisor who knows how to reckon with human nature and deal with personalities—as we have learned within our own relatively small organization, where personal cooperation is perhaps easier to obtain. Possibly the simple fundamentals derived from our experience may be highlighted beneficially for foremen and other supervisors now engaged in the work of production. In the Bodine Electric Company, we aim at a target termed P-I-T-S: Production Increase Through Supervision.

In a broad sense, a supervisor is an executive—and an executive may be defined as one fitted for or possessing administrative talents. Not all can primarily qualify as such, but many can learn. An executive is an industrial leader to the extent that he has followers, men who do his bidding and act upon his suggestions. To demonstrate that he is a real leader he must concern himself especially with the qualities of forcefulness, fairness, and kindliness. He must act as the representative of the men before the organization, and he must represent the organization before the men. Since they sometimes become depressed, he must pay particular attention to them as individuals. He must be able to attend with justice and judgment to their disagreements and misunderstandings. He must lift them continually to better accomplishment so that their rewards will not diminish. The man who cannot do these things or learn to do them should not be placed in a supervisory position.

Attitude of Supervisor

Another fundamental lies in the business attitude of the supervisor. For instance, he will not issue orders in the manner of military commands. Such an order, poorly given, will be poorly executed. The qualified supervisor will indicate what is to be done and indicate it in such a way that the employee will have no doubt as to the intention. He will make sure that he is understood the first time so that no question can later be raised. Also, it is advisable to explain the reason behind the instruction so that the job can be done intelligently.

It is a good idea, too, for a supervisor to earn the reputation of "knowing everything." This is almost as valuable as actually noticing everything. He can establish such a reputation by following through on every important assignment made and by maintaining constant supervision.

Mutual respect between the supervisor and the supervised is another important fundamental. A foreman can get along without the sentimental regard of his employees—but not without their respect. To get respect, he must give it. Confidence is born of confidence. The supervisor who has confidence in his men and respects them will be trusted in turn and will earn their confidence. Moreover, the supervisor who wants respect from others must have respect for himself.

One of the best ways for a supervisor to show the men that he respects them is to let them see that he is protecting their interests. Each employee knows that to a degree his interests are in the hands of the foreman, so when he fends for them they will have confidence in him. Another way to show respect for the men is to make no promises without keeping them. One of the best ways to insult

* Reprinted from "Exècutives Service Bulletin" published by the Metropolitan Life Insurance Co.

a man is to forget to keep even one promise. Another consideration equally disruptive appears when an employee entrusts a personal matter to his foreman, only to find it revealed to others, perhaps thoughtlessly.

If the supervisor is to deserve the confidence so indispensable to his own job, he must demonstrate complete knowledge of the work done by his subordinates. Without that capacity he cannot properly perform his administrative duties. Failing in this he loses the confidence of his men as a direct result of the inevitable lack of confidence in himself. A similar reaction appears when a foreman assigns a job to a man and then denies him the privilege of taking the responsibility for its performance. The implied lack of mutual confidence and respect makes trouble.

An important measure of a supervisor's self-respect is his loyalty to the company which employs him. If he is not loyal to his own supervisors and to his organization, he cannot expect his men to be loyal to him. Such mutual esteem is hard to maintain if the supervisor, by any chance, obtained his own position on any other basis than pure merit. If in the eyes of his men he came to his post through favoritism and not because of ability, it can do him nothing but harm. And, by the same token, the foreman who permits himself to extend special considerations unrelated to merit, but based upon expediency and not upon good and sufficient business reasons visible to all, runs into trouble. Under such a setup the ambitious employee comes to believe, rightfully or not, that no matter how good his work may be, no matter how industriously he applies himself to it, he can go just so far and no farther.

No Favoritism

The plain fact is that a man who favors his friends makes a poor supervisor. Granted that it is only natural for a supervisor to like some of his people better than others, he would be foolish to show that preference.

As a matter of fact, one cannot help but have likes and dislikes—and I rather think that those employees who are most loyal, attentive, and efficient deserve to be regarded with more consideration than those who are not. But when favoritism is shown, the reason should be in the conduct and loyalty of the employee and not in any personal prejudice. The most important thing is to treat everyone alike. It is much easier for a supervisor to be impartial if he recognizes his prejudices.

In adapting ideas and in accepting practical suggestions, the wise supervisor is careful to give credit to the man who had the idea, particularly if it be presented informally and not through a formal suggestion system. Likewise, the management should give credit to the proper source and not accept something for nothing. There should be an established procedure for rewarding on a uniform basis those employees who give evidence of interest by offering helpful ideas.

Employees in subordinate positions have several reasons for giving suggestions. One is that they like the fun of thinking up new ideas. Another is that a change suggested will lighten their work, and the third is that they enjoy the praise and the recognition of their fellows when a suggestion is put to work. It is acknowledged by most supervisors that ideas flow more freely and are likely to be more practical when the discoverer gains recognition by them. And it is also acknowledged that the supervisor who takes credit for the ideas of others will presently lose their confidence—and the source of the good ideas will dry up.

There are several means of showing appreciation—and among these is publicity to accompany a fitting reward. The supervisor should personally thank an employee, and he should see that other members of the department are acquainted with the good suggestion. This increases the prestige of the suggester and, at the same time, shows that the supervisor is appreciative and generous. Such recognition seems fairly obvious, but it is not always made.

A competent supervisor sees that his men are well trained. The poor supervisor is less concerned—a condition that particularly applies to smaller organizations which do not include a training department. Interest in and attention to training of employees make up the chief distinction, in my opinion, between types of foremen. The supervisor who fails to train his men properly, and who then indulges in ridicule and fault-finding when he should be teaching them, is heading toward trouble. On the contrary, he who can show his subordinates that he is leading them and not bossing them, who demonstrates his identity with them, sets an example that contributes to cooperation.

In one sense every department and every business enterprise is a machine. It is organized to do a certain job. If it does that job well and quickly and within reasonable cost, it is a good machine; to the extent that it fails at this, it is a bad machine.

Common defects in machinery can usually be traced to two fundamental causes. Either the original installation was bad, or the pur-

chase of the particular type of machine was ill-advised, perhaps not suited to the work for which it was acquired. Once a department of people fails in attaining its objective, the causes are much the same. It may not be properly organized, its administration may be ineptly handled, or it may be that integral parts are allowed to rub against each other and cause friction that will reduce its efficiency as an instrument of organized work. In machines, friction is eliminated by the use of oil; in an organization of human beings, friction is avoided by good management, careful organization, proper supervision, effective discipline, and by cooperation of all its members.

The man who runs the human machine must be a good organizer. Should he not plan ahead, neither he nor anyone else will know what is to be done nor who is to do it. Even though reliance be properly placed on a centralized planning department, and granted that such a system works perfectly, there is always a certain amount of supervision and detail left to the several departments. No matter how closely the planning department specifies the details of work, the supervisor must always supplement them in a number of ways. If this were not so, it would be possible to dispense with the supervisor entirely.

When the plans are made and the machinery provided in good condition, the wise supervisor will make sure that he has the right man in the right place. This is indispensable to maximum efficiency. A cheap man in most cases cannot do the work of a better man, and the latter is wasted on cheap work. It does not pay either way.

A major factor in competent supervision is division of responsibility on the right basis. The knowing supervisor will organize his work in such a way that no one is given too much to do at a time when others are not busy. He should assign work according to the performer's ability. Likewise, he should delegate responsibilities and be disciplinarian enough to see that they are discharged and accounted for. He will follow up his instructions and observe the men at work in order to make sure that everything is running evenly and regularly.

Qualities of Assistants

Finally, the outstanding supervisor will recognize the need of assistance—and two important traits in his assistants are initiative and dependability. These qualities must be at least latent in his subordinates, and he will place responsibility upon them firmly but with careful graduation so that the assistants are not overwhelmed at the beginning. And he will allow them to make mistakes without holding them too strictly to account until his training removes the possibility of repeated mistakes.

The foregoing localizes fundamentals that issue from our own experience in an organization where we constantly strive for perfection, where we place more and more dependence upon P-I-T-S: Production Increase Through Supervision. Continuing in that direction, we hope to be able, through capable supervision, to improve our products as well as to increase production.

President Vetoes Bill on Payment of State Fees

Since the decision by the U. S. Supreme Court that the government was not required to pay the State inspection fees on fertilizers distributed by A. A. A., Congress has passed a bill which requires the Department of Agriculture or any other agency of the United States Government, in distributing seeds, livestock and poultry feed, nursery stock, fertilizer, or soil-conditioning or fertilizer material to farmers, to be subject to and comply with the inspection laws of the State within which such distribution is made. The only exception, which was contained in a Senate amendment, was on fertilizer distributed by T. V. A. for experimental purposes.

On July 17th, however, President Roosevelt vetoed the Bill through the pocket-veto method.

In stating his objections to the Bill, the President said:

"If additional controls are necessary to insure the quality of the materials distributed by Federal agencies, the Congress should prescribe them. The granting to the Legislatures of each of the 48 states of the power to regulate and, indeed, to veto a constitutional program of the Federal government would constitute a sharp departure from precedent and a department which I consider dangerous and unwarranted."

The President pointed out that one of the primary objectives of Congress in creating the TVA was to insure the distribution to farmers of low cost, high quality fertilizer. The proposed requirement that fertilizer distributed for other than experimental purposes comply with state laws and pay state inspection fees, he said, would "seriously hamper the authority's program since it would, in effect, permit the States to regulate the manufacture of such fertilizer."

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PIONEER JOURNAL OF THE FERTILIZER INDUSTRY

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Off-the-Job Accidents

The prevention of accidents is good business and American industry—at least the larger plant units—long has been convinced of it.

A shrinking accident frequency rate, or no accidents at all, is followed automatically by increased efficiency just as surely as a dog is followed by its tail.

Industry has demonstrated beyond the shadow of a doubt that the frequency of accidents in its shops can be cut down and eliminated.

But how about accidents that strike down employees while they are off the job—away from work? Are they management's business? What a man does on his own time obviously is pretty much his own business and something for which he has to answer only to his own conscience and the laws of his community.

However, there is no disputing the point that an accident suffered off the job keeps a man away from his work just as effectively as an accident suffered on the job.

When war broke and manpower got scarce and ever more scarce, progressive plant managers stopped stroking their chins over the lengths to which management might go to control the off-the-job accident problem.

Company after company began to tally up its accident score. They found that absenteeism caused by off-the-job accidents was five, seven, as much as ten times greater than absenteeisms caused by on-the-job accidents.

One large corporation lost three employees through fatal work accidents in 1942—but 47 of its employees were killed in accidents that occurred off the job!

The National Safety Council reports that last year, while 18,500 workers lost their lives as a result of accidents on the job, no fewer than 26,500 were killed on the streets, in other public places and at home.

What is the off-the-job accident score of your employees? How does it compare with the on-the-job score in your plant? If your experience tells you that something should be done about your off-the-job accident problem, without meddling at all with their private lives, the National Safety Council located at 20 North Wacker Drive, Chicago 6, is the "doctor" you should call in. The Council, out of its 30-odd years of experience in prescribing for accident ills of all sorts, has developed a new, complete, intelligent, educational program for industry to use in combating off-the-job accidents.

Ceiling Prices Set for Victory Garden Fertilizer

On July 28th, specific dollars-and-cents maximum prices were established by the Office of Price Administration on the three new and improved grades of special Victory Garden fertilizer, which have been made available as a result of an easing of the nitrogen supply situation.

Under Amendment No. 4 to Revised Maximum Price Regulation 135 (Mixed Fertilizer, Superphosphate and Potash), effective August 3, 1943, ceiling prices are fixed at the consumer and wholesale levels for packages of fertilizer of various weights. Although prices for the new grades average 20 cents per 100 pounds higher than prices for the 3–8–7 grade of Victory Garden fertilizer sold this past spring, actually the cost per unit of plant food has been decreased at the rate of approximately one cent per unit, inasmuch as the new grades each contain a total of 20 plant food units as contrasted with a total of 18 in the only grade formerly allowed Victory gardeners. The price increase on the poundage basis barely compensates manufacturers for the added plant food units, OPA said.

Victory garden fertilizer—previously limited to a 3–8–7 grade of mixed ingredients for the non-commercial production of vegetables and small fruits—on July 3, 1943, under Revised Food Production Order No. 5, was replaced with grades 5–10–5 for Eastern States, 4–12–4 for the Middle West, and 6–10–4 for the Pacific Coast area.

Maximum consumer prices for any of the three grades of "Victory Garden Fertilizer for Food Production Only" are established as follows:

In 100-pound packages:	*Per package*
2,000 lbs. or more	$3.20
1,000 lbs. to 1,900 lbs.	3.45
500 lbs. to 900 lbs.	3.55
100 lbs. to 400 lbs.	3.70

In smaller packages:	*Each*
50-lb. package	$2.35
25-lb. package	1.45
10-lb. package	.80
5-lb. package	.50

In some States Revised Food Production Order No. 5 limits the use of Victory garden grade fertilizer entirely to private, non-commercial use, whereas in other States the Victory garden grade also may be manufactured and sold as a regular fertilizer for commercial crop production by market-gardeners and farmers.

Where fertilizer labeled "Victory Garden Fertilizer—For Food Production Only" is sold for general commercial use, the maximum prices provided for Victory garden use shall not apply, and both manufacturers and dealers are governed by provisions of the original fertilizer regulation. This stipulates for manufacturers a price schedule as set forth in the base-period February 16–20, 1942; and for retailers allows a stated mark-up on their delivered cost of the fertilizer.

June Sulphate of Ammonia

The figures of the U. S. Bureau of Mines for by-product sulphate of ammonia show a drop in production during June of 6.6 per cent from May, the output being 60,144 tons. Shipments, however, dropped from 67,138 tons in May to 40,587 tons in June, which caused an increase in stocks on hand at the end of the month, to 39,568 tons. Ammonia liquor showed a steady output of a little less than 100 tons per day, with shipments taking about the same amount.

	SULPHATE OF AMMONIA	AMMONIA LIQUOR
Production	*Tons*	*Tons NH-*
June, 1943	60,144	2,794
May, 1943	64,402	2,927
June, 1942	63,887	2,719
January-June, 1943	377,426	16,954
January-June, 1942	383,882	16,741
Shipments		
June, 1943	40,587	2,804
May, 1943	67,138	2,987
June, 1942	57,788	2,593
Stocks on hand		
June 30, 1943	39,568	922
May 31, 1943	20,198	827
June 30, 1942	19,760	761
May 31, 1942	13,878	782

Pyrites Production Makes New Record

In 1942, for the third successive year, a new record was attained in the production of pyrites in the United States, 12 per cent higher than the 1941 total. Ninety-eight per cent of the output was classified as fines, largely flotation concentrates, and the remainder as lump, according to the Bureau of Mines.

Pyrites (ores and concentrates) produced in the United States in 1942 as compared with 1941 follows:—

	1942	1941
Gross weight (long tons)	720,363	645,257
Sulphur content (per cent)	42.6	41.9

1942-43 Sales Largest on Record

Sales of fertilizer tax tags in the 17 reporting states in the fiscal year ended with June amounted to 6,748,639 tons. This represented increases of 14 per cent over 1941–42 and 17 per cent over 1940–41. Sales were the largest for any year on record.

Increases over 1941–42 were reported by all the states except Missouri and Kansas. Distribution of superphosphate by AAA has been very heavy in these two states and this has possibly affected sales by commercial producers.

Tax tag sales in the calendar year 1942 amounted to 70.6 per cent of total commercial sales in that year. If that ratio is applied to tag sales in the 1942–43 fiscal year it gives an estimate of 9,559,000 tons, compared with actual 1942 calendar year sales of 8,779,000 tons.

Sales in the January–June period of each of the last four years are shown below.

	1943	1942	1941	1940
South	4,638,000	4,381,000	4,406,000	4,200,000
Midwest	462,000	459,000	422,000	355,000
TOTAL	5,100,000	4,840,000	4,828,000	4,555,000

Canada Fertilizer Output Increases

According to the Department of Commerce, production and sales of fertilizers in Canada during 1942 were of record proportions. About 391,000 tons of mixed fertilizers and 280,000 tons of superphosphates, ammonium sulphate, and ammonium phosphate were produced by 25 establishments. This is an increase of about 32 per cent over 1941.

FERTILIZER TAX TAG SALES

State	JUNE 1943	JUNE 1942	JUNE 1941	% '41 & '42	JULY–JUNE 1942–43	JULY–JUNE 1941–42	JULY–JUNE 1940–41
	Tons	Tons	Tons		Tons	Tons	Tons
Virginia	7,890	9,685	9,246	102	423,574	416,231	400,047
North Carolina	17,680	35,161	20,176	108	1,292,655	1,194,175	1,095,327
South Carolina	12,030	14,040	17,352	122	802,498	659,412	712,115
Georgia	14,526	16,669	7,224	125	988,191	788,111	793,601
Florida	45,528	33,396	28,714	102	702,055	689,073	612,230
Alabama	6,250	13,550	5,900	112	640,200	571,350	578,050
Mississippi	6,427	10,711	9,750	128	428,575	333,976	342,455
Tennessee	2,725	4,752	1,648	132	214,723	163,064	148,387
Arkansas	920	2,300	750	109	153,583	140,950	119,650
Louisiana	400	5,550	1,780	107	181,443	168,986	171,474
Texas	2,300	1,915	1,114	115	153,881	133,608	133,354
Oklahoma	143	0	120	145	16,494	11,386	10,790
TOTAL SOUTH	116,819	147,729	103,774	114	5,997,872	5,270,322	5,117,480
Indiana	2,325	1,587	35,354	126	431,714	342,355	345,264
Illinois	1,350	112	75	110	86,905	78,838	62,101
Kentucky	9,048	2,148	4,325	103	144,952	140,736	124,799
Missouri	278	2,916	20	91	78,783	86,511	97,701
Kansas	0	5,028	0	42	8,413	19,910	20,786
TOTAL MIDWEST	13,001	11,791	39,774	112	750,767	668,350	650,651
GRAND TOTAL	129,820	159,520	143,548	114	6,748,639	5,938,672	5,768,131

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FERTILIZER MATERIALS MARKET

NEW YORK

Deliveries Continuing Against Allocations. Manufacturers Complaining About Difficulties in Use of Ammonium Nitrate. Increased Sulphuric Acid Aids Superphosphate Production.

Exclusive Correspondence to "The American Fertilizer"

NEW YORK, July 28, 1943.

Sulphate of Ammonia

Deliveries are continuing steadily against allocations.

Nitrate of Soda

Same situation prevails in this material and the prices for August continue on the same level as July deliveries.

Ammonium Nitrate

This material is now being specially prepared for use by the fertilizer manufacturers to whom special handling should make its use more attractive, but most of the fertilizer manufacturers are still complaining due to the inherent conditions of the material.

Potash

Deliveries are being made against contracts with most of the buyers willing to take in whatever material is offered for prompt delivery.

Superphosphate

The sulphuric acid production is increasing steadily with subsequent increased production of superphosphate, but this material is being used by the manufacturers or shipped promptly so that no stocks are accumulating. In all probability this condition will continue with no surplus in sight and continuing demand.

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BALTIMORE

Price Levels on Organics Too High for Fertilizer Use. Deliveries of Chemical Materials Proceeding on Contract. Bag Situation Changing.

Exclusive Correspondence to "The American Fertilizer"

BALTIMORE, July 27, 1943.

With the spring season over, manufacturers are already directing their time and attention looking toward another season in the hope of being able to produce the utmost tonnage so as to take care of the larger crops requested by Government Departments.

Ammoniates.—A good demand still prevails on both tankage and blood for feeding purposes at ceiling prices, and there is, therefore, none of this material obtainable for fertilizer use.

Sulphate of Ammonia.—While fertilizer manufacturers have placed contracts with producers, deliveries are only being made with Government sanction, and manufacturers are storing stocks ahead so as to be prepared for the season when it opens up after the turn of the year. Allocation of ammonium nitrate from Canada will doubtless help the situation considerably, in view of the shortage of organic ammoniates.

Nitrate of Soda.—The market remains unchanged and deliveries continue on allocation basis. Manufacturers will again be compelled to use considerable tonnage of nitrate of soda in their mixtures this year, due to inability to secure ample supplies of sulphate of ammonia and liquid ammonia.

Fish Meal.—There are reports that fishing has been good in the face of difficulties encountered by fishermen, but practically the entire output this year will go for feeding purposes, as the price has reached a point where it is almost out of reach as far as a fertilizer material is concerned.

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Superphosphate.—All producers are running to full capacity, but no heavy stocks have accumulated, and during the past few weeks it has been impossible to secure a round tonnage for July–August delivery at ceiling price, as manufacturers first want to take care of their regular trade before taking on business.

Potash.—Deliveries are now being made against contracts previously booked on low discount basis. Stocks in the hands of fertilizer manufacturers are more than ample as most of the manufacturers are holding deliveries until they can base mixed goods for another season. If in the interim there is any change in the situation as far as organic ammoniates is concerned, fertilizer manufacturers will still be able to use whatever tonnage is available, provided, of course, price is in line as a fertilizer material.

Bone Meal.—There is no change in the situation and both raw and steamed bone meal continue in short supply, and the nominal market remains unchanged at about $50.00 per ton, f.o.b. Baltimore.

Bags.—Most of the manufacturers have now covered for their requirements of paper bags to take care of next season's business in fear of a paper shortage developing later on. It is, of course, admitted that shipment of fertilizer in paper bags is not as desirable as in either cotton or burlap bags where they can use them over and over again on the farm, or resell to dealers for processing and remarketing in good shape to other industries. The shipping situation seems to be considerably easier, and it would not be at all surprising if in the near future the Government will modify restrictions placed against the use of new burlap bags for fertilizer. Many of the manufacturers have already covered for their normal requirements of paper bags, and, therefore, the tonnage that might become available for fertilizer will be much less than if the situation had arisen earlier in the year.

CHARLESTON

Chemical Materials Moving on Contract. Production Steady. Feed Market Taking All Organics.

Exclusive Correspondence to "The American Fertilizer"

CHARLESTON, July 27, 1943.

Nitrogen.—Mineral nitrogen is beginning to move to the fertilizer manufacturing plants.

Sulphate of Ammonia.—This market firm, with production running a steady amount per week.

Dried Blood.—This material is quoted at $5.53 per unit of ammonia ($6.72 per unit N), f.o.b. Chicago. Practically all of it is going to feed.

Nitrate of Soda.—August prices will be the same as those for July.

Nitrogenous.—No further allocations.

Cottonseed Meal.—Quotations on the 8 per cent grade are nominal, $38.50, Atlanta.

Soybean Meal.—This is quoted at $46.71, Atlanta, but practically no carloads are being offered.

PHILADELPHIA

Manufacturers Covered as Far as Possible for Coming Requirements. Tankage Ceiling Raised. Potash Supply Adequate.

Exclusive Correspondence to "The American Fertilizer"

PHILADELPHIA, July 26, 1943.

Routine activity seems to rule the market here. Apparently, most mixers have about made all arrangements for the fall and spring, to the best of their ability under today's prevailing conditions.

Ammoniates.—The increased ceiling price for tankage was the feature of these materials, but whether this will mean any additional supplies, we will have to wait and see.

Sulphate of Ammonia.—Being allocated, this material moves in a now well-worn groove.

Manufacturers' Sales Agents for **DOMESTIC**

Sulphate of Ammonia

Ammonia Liquor :: Anhydrous Ammonia

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Nitrate of Soda.—Prices for August shipment have been announced as being the same as applied for July. Otherwise this material also shows little activity of any spectacular nature, owing to it being fully allocated.

Superphosphate.—Movements of shipments are going on at a fair volume against contracts. Triple is still reported scarce, owing to the export shipments.

Bone Meals.—Still scarce, but inquiries for the material seem to have fallen off, probably for the reason that users have about given up hope of securing any.

Potash.—It is reported that, if the available supply of potash is used properly, there will be sufficient to take care of the requirements.

TENNESSEE PHOSPHATE

Continued Drouth Harms Crops. Labor Shortage Impedes Shipments. Death of George Kerr. Hoover & Mason Add to Phosphate Properties.

Exclusive Correspondence to "The American Fertilizer"

COLUMBIA, TENN., July 25, 1943.

The worst drouth since 1930 continues to afflict Middle Tennessee and most of West Tennessee, including practically all of the phosphate area and crops of all kinds, especially corn, truck crops and tobacco, are suffering to such extent that 50 per cent damage on the average is expected. Only the scattered thundershowers are keeping it from complete destruction. Actual water supply for washing phosphate has not yet reached the danger stage, but unless relief comes shortly the end of August will doubtless see washing suspended.

The draft and nearby war plants have practically taken most of the good labor engaged in the loading and bagging operations, so that this bottleneck has put shippers of ground rock farther behind instead of enabling them to catch up since installation of additional grinding equipment. The union organizations, under which all mine labor here now operates, add to the difficulties in this line.

His host of friends in fertilizer manufacturing circles were grieved to learn of the death on July 23rd from a heart attack, of George Kerr, who up to his retirement about a year and a half ago, had been timekeeper and storekeeper for the Federal Chemical Co., beginning work with the old Tennessee Phosphate Co., in August, 1896. Mr. Kerr was a real gentleman of the old school and was beloved by laborers, management, tradesmen, visitors and all who came in contact with him in business, social and church activities.

The local press mentions the recording of deed to mineral rights on 45 acres along the Nashville Highway north of Columbia from Mrs. Mangrem and others to the Hoover & Mason Phosphate Co. This is one of several purchases made in that area by the same company aggregating very large deposits of phosphate rock in the Bear Creek, Rutherford Creek and Carter's Creek regions, where the TVA operations lie. These properties add materially to the large phosphate reserves of the company.

Midwest Fertilizer Conference

The Midwest conference held in Chicago on July 20th was well attended by agronomists and industry representatives—about 150 in all. Wm. F. Watkins of WFA presided.

Dale C. Kieffer of WPB discussed the allocation of potash and phosphate supplies with particular reference to the Midwest. He said the Midwest will probably receive in 1943–44 about 83 per cent of the quantity of potash used in 1942–43. Both industry representatives and agronomists emphasized the great need for potash in the Midwest food production program. Every possible means of in-

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creasing the supply of potash and superphosphate is receiving careful consideration. Henry Taylor of WPB answered a number of questions concerning nitrogen supplies and allocation.

Wm. F. Watkins of WFA outlined preliminary production goals for 1944, pointing out that most of the increased acreage will be in the Great Plains, some increase in the Midwest, especially in the fall wheat acreage. Too much emphasis cannot be placed on the fertilization of pasture, hay, and feed grains. He stressed the need for early movement of 1944 tonnage to the farm.

W. E. Lafkin of WFA discussed the provisions of FPO 5 revised and invited suggestions as to any needed amendments. There was much discussion as to Group A and B crops and as to grades that should be sold especially for use this fall. It was the consensus that hybrid corn for seed production should be added to the Group A list. Following a recess for lunch, fully 60 persons returned for further discussion, at the conclusion of which it was voted that no changes in FPO 5 be recommended as to regulating the potash content of fertilizers—that this be left to the industry. It was also voted to recommend the addition of 0–14–4 to the Kentucky list.

OPA representatives discussed a proposal for establishing over-all maximum prices for fertilizers on a dollars-and-cents basis in the Middle Western States. P. W. Lowry explained that this proposal was in line with OPA general policy and expressed the view that dollars-and-cents maximum prices for fertilizers would be better adapted to business from the standpoint of seller and of buyer; would be easier to administer from the standpoint of the manufacturers and the Government; and would reduce record-keeping requirements, making unnecessary the submittal of computations and the 10-day waiting period in the case of a new grade. Roland Payne presented and explained a tentative plan for establishing dollars-and-cents maximum prices. The plan included a list, by States, of maximum prices for each of the approved grades in Ohio, Indiana, Illinois, Michigan, and Wisconsin, on a delivered to railhead carlot basis; designated discounts; a method of determining a maximum price for other grades by adding to or deducting from the maximum price of a designated basic grade stated unit values for nitrogen, available phosphoric acid, and potash, and by adding stated permissible amounts for the addition of certain special ingredients; stated bag differentials; and a provision for addition for freight adjustment in case of l.c.l. shipments. Mr. Payne answered a number of questions, distributed copies of the proposed plan, and invited manufacturers to study it and send any suggestions to OPA.

Sulphur Output in 1942 at Record Height

Production of native sulphur in the United States attained a new record of 3,460,686 long tons, exceeding by 10 per cent the previous high established in 1941, according to the Bureau of Mines. More than 83 per cent of the total came from deposits in Texas and over 16 per cent from Louisiana. The remaining fraction of 1 per cent was supplied by mines in California and Utah. In addition, approximately 1,600 tons of native sulphur-bearing ore, containing 10 to 50 per cent sulphur, is mined in Colorado and Texas for agricultural purposes. Stocks of crude sulphur held at the mines increased during the year and on December 31 amounted to 4,300,000 long tons. In addition, the producing companies hold substantial tonnages at other locations, or in transit.

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stocks at the end of the year was about 5,114,000 long tons, 9 per cent more than on December 31, 1941. Although exactly comparable figures are not available for past years, it is apparent that producers' stocks are at or near an all-time high. They are adequate for at least one and one-half years' consumption requirements.

	Long tons	
	1942	1941
Production	3,460,686	3,139,253
Shipments	3,128,559	3,401,410

FERTILIZER PRICING PROBLEMS

(Continued from page 8)

that he finds necessary to aid in the effective prosecution of the war or to correct gross inequities.'

"In Executive Order 9250, the President also directed the Administrator, in fixing, reducing, or increasing prices, to determine price ceilings 'in such a manner that profits are prevented which in his judgment are unreasonable or exorbitant.' In Executive Order 9328, known as the hold-the-line order, the President further directed the Administrator 'to reduce prices which are excessively high, unfair or inequitable.'

"In accordance with the provisions of the statutes and directives contained in the Executive Orders, the Administrator has adopted policies with respect to increases and decreases in maximum prices. In certain instances, maximum prices may be reduced as part of a readjustment designed to correct improper price relationships or to avoid an increase in the general level of consumer prices. Putting aside these instances, with which this statement does not deal, the policy which governs decreases in maximum prices, on the ground that the price has ceased to be generally fair and equitable, may be briefly set forth as follows:

"Prices will normally be found excessively high, unfair or inequitable and may therefore be reduced under any of the following circumstances:

1. Where prices were caught by the GMPR or by other freeze regulations or were initially set by a specific maximum price regulation at a level higher than that required for fairness and equity to producers and consumers.
2. Where the prices of new products were initially set at a level which subsequent experience has demonstrated to be higher than that required for fairness and equity.
3. Where prices have been increased in the face of constant or declining costs per unit of output.
4. Where costs per unit have declined as a consequence of expansion of output, a reduction in the prices of materials, or simplification of the product, while prices have remained stable or have failed to decline in proportion to the reduction in costs.
5. Where profits are unreasonable or exorbitant, to be determined normally by the fact that an industry, taken as a whole, is realizing a higher profit per unit of output than that realized in 1941.

"Prices are not held to be excessively high, unfair, or inequitable and therefore will not be reduced under any of the following circumstances:

1. Where prices have declined in the face of rising or stable unit costs or where a reduction in prices has been proportionate to or greater than a reduction in costs.
2. Where a rise in profits may be clearly attributed, not to an increase in prices, an expansion of output, a reduction in the prices of materials, or simplification of the product, but to recent enhancement in the efficiency of management.
3. Where the effect of a price cut would clearly be significantly to reduce the output of goods which are necessary to the effective prosecution of the war.

"This is the policy of the Office of Price Administration with respect to the reduction of maximum prices which are excessively high, unfair or inequitable. The Office has no program with respect to the reduction of profits, as such. It has been granted no authority by the Congress to control the profits of individual concerns. It has not been di-

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Dependable for Fifty Years

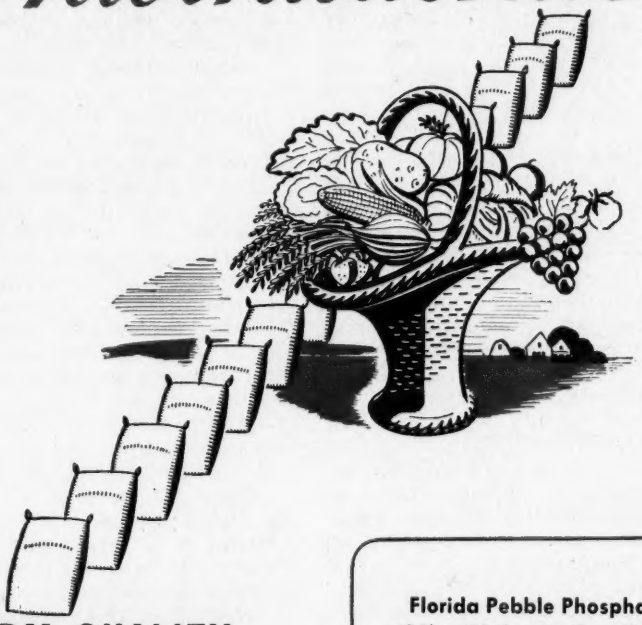
All-Steel Self-Contained Fertilizer Mixing Units
Batch Mixers—Dry Batching
Pan Mixers—Wet Mixing
Swing Hammer and Cage Type Tailings Pulverizers
Vibrating Screens
Dust Weigh Hoppers
Acid Weigh Scales

STEDMAN'S FOUNDRY & MACHINE WORKS
AURORA, INDIANA, U. S. A. Founded 1834

CROP PRODUCING FERTILIZER MATERIALS

by

International



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Tennessee Phosphate Rock
66%—68%—72%

Superphosphate
Multiple Superphosphate

Domestic Potash Salts

All Standard Grades of Potash
Including SUL-PO-MAG

(Sulphate of Potash-Magnesia)

Complete Fertilizers

INTERNATIONAL MINERALS & CHEMICAL CORPORATION

General Offices: 20 North Wacker Drive, Chicago
Mining and Manufacturing

PHOSPHATE • POTASH • FERTILIZER • CHEMICALS

rected by the President to do so. It has never sought to do so. In the very nature of the case, it would not be able to do so.

"There are two reasons why this is true. First, maximum prices under price ceilings are set product by product. Profits, however, are realized company by company. An individual product may be produced by many different producers; it may contribute an insignificant portion of the profits of some producers, a major portion of the profits of others. It would usually be impossible, therefore, so to fix individual product prices as to control individual company profits. Second, in fixing the ceiling for any product, a single maximum or a series of maxima may be established. In either case, the ceilings will be set at a level which is calculated to be generally fair and equitable. But the costs of different producers will differ and the profits realized by the several producers who sell under such a ceiling will therefore vary. The profits of individual companies may be controlled by the renegotiation of contracts or by taxation. They cannot be controlled by the establishment, on a product basis, of industry-wide maximum prices.

"This does not mean, however, that the Price Administrator, in fixing maximum prices, can ignore the factor of profits. Certainly, maximum prices would not be generally fair and equitable if they compelled a whole industry to produce at a loss or if they allowed it to realize no margin over costs. Just as certainly, maximum prices would not be generally fair and equitable if they allowed a whole industry to realize profits which were unreasonable or exorbitant. The only possible test of the fairness and equity of the level at which maximum prices are set is to be found in its effect upon an industry's profits. If such profits are unduly squeezed by a ceiling, it must be concluded that the ceiling is too low. If they are unduly inflated, it must be concluded that the ceiling is too high.

"No one would question the fact that maximum prices must be set with reference to costs. But it necessarily follows, since profits are merely the margin between prices and costs, that maximum prices must also be set with reference to their effect upon profits. This is not merely common sense. It is also a requirement of the law. As I have pointed out, the Price Administrator is required, by Section 2 (a) of the Emergency Price Control Act of 1942 to make adjustments for 'general increases or decreases in profits earned by the sellers of the commodity or commodities during and subsequent to the year ended October 1, 1941.' This he has done and will continue to do unless and until the law is amended or repealed.

"The Office of Price Administration must establish and maintain its ceilings at levels which do not involve discrimination between different industries. The Office has always taken profits into account in determining whether maximum prices will be increased where costs have risen and in determining how large an increase will be made. It must also take profits into account in determining whether maximum prices will be reduced where costs have declined.

"Some industries had relatively low prices before the war, did not raise prices substantially before the initiation of price control, and have not benefited from significant increases in wartime demand. Some of these industries are now experiencing increasing costs and curtailed profits. As a general policy, in such cases, maximum prices are increased when the level of profits has fallen to a point where over-all hardship is threatened for the industry as a whole. In making this determination, the Office is guided by the profits of the industry prior to the outbreak of war, with proper consideration of abnormalities in pre-war earnings and of additional investment since that time.

"Other industries have enjoyed large increases in production, reductions in costs, and increases in profits, under the stimulus of wartime demand. It would be manifestly inequitable simultaneously to reduce profits in the former group of industries by holding prices down as costs rise and to permit profit margins to rise in the latter group of industries by leaving prices unchanged as costs fall. Prices in these industries must be reduced as the Congress contemplated in directing the Administrator to consider decreases in costs and increases in profits.

"In determining whether to reduce prices, the Office will not distinguish between profits accruing as the result of previous advances in prices and profits accruing as the result of reductions in costs which are occasioned by expansion of output induced by wartime demand. Such reductions in costs are usually a consequence of standardization and experience in the production of relatively new war goods and such expansion of output is usually a consequence of government purchases. In a period of wartime demand, some industries, which normally operate at capacity, increase their earnings by raising prices; others, which normally operate below capacity increase their earnings by expanding output. To draw a line between the two would be to

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Manganese Sulphate

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PEOPLES OFFICE BUILDING
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WILLIAM E. WELLMANN
BROKER
Baltimore - Maryland

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Superphosphate
Sulphuric Acid
Bags

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. . . . WHEN BORON IS NEEDED TO CORRECT A DEFICIENCY OF THIS IMPORTANT SECONDARY ELEMENT

Agricultural authorities have shown that a lack of Boron in the soil can result in deficiency diseases which seriously impair the yield and quality of crops.

When Boron deficiencies are found, follow the recommendations of local County Agents or State Experiment Stations.

Information and references available on request.

AMERICAN POTASH & CHEMICAL CORPORATION
122 East 42nd ST., NEW YORK CITY

Pioneer Producers of Muriate of Potash in America

See Page 4

discriminate against those industries which produced the most during peacetime or have had the smallest expansion during the war.

"Insofar as profits are the governing criterion in reducing maximum prices, the Office of Price Administration is guided by the profit margins realized during the year prior to October 1, 1941. Wehenever industry-wide profits have risen so far that they constitute a larger margin on the sales dollar than they did before Pearl Harbor, it will normally be found that such profits are so unreasonable and exorbitant that the price ceilings which permit them have ceased to be generally fair and equitable.

"In taking this position, the Office does not question the relatively high margins of profit enjoyed by many industries before the war. It is concerned only with the increases in those margins that have occurred during the war. Nor has the Office sought to prevent increases in profits. Its policy permits an industry to realize an increase in profit which is proportionate to its increase in sales, an increase in aggregate profits, and an increase in return on investment. But it does not permit an industry to employ the abnormal circumstances of war as an opportunity so to widen its margins that it may enjoy an increase in profits which is more than proportionate to its increase in sales.

"It should probably be pointed out again that we are concerned here only with industry-wide averages and with ceilings of general applicability. If any individual producer, selling under such a ceiling, can obtain a margin of profit which exceeds the industry's average, his own price will not be reduced. More than this, the Office of Price Administration will not reduce maximum prices where increased profits, even for an industry as a whole, are clearly the consequence of improvements in the efficiency of management.

"The policy which I have just described, has sometimes been referred to, inaccurately, as a policy of profit control. It is not a policy of profit control. It is, on the contrary, a necessary element in a program of price control. It is designed, not to regulate in detail the incomes of the owners of industry, but to prevent inflation. Its purpose is not to attack private profit, but to preserve for the post-war period an economic structure in which production for private profit will continue to be the mainspring of economic progress."

Before I close I just want to say that we will not make any attempt to put into effect a new set of dollars-and-cents maximum prices without consultation with the industry. We take pride in playing the game in an open, above-board manner with all the cards face up on the table, and if you think any of our proposed actions are cockeyed we want you to tell us so. Constructive criticism is especially welcome, and particularly when it is bulwarked with facts. We find it very difficult on the other hand, to do anything based upon flat statements without the factual evidence to back them up.

I want to say here that both the industry advisory committee, of which some of you are members, and The National Fertilizer Association have been very helpful to us in making the job of fertilizer price control workable.

Infortunately the committee meets on the average of once a month and things change so rapidly now that it frequently becomes necessary to make decisions before the next meeting of the committee. At such times we find it especially helpful to call upon the Association for the industry viewpoint.

Fortunate indeed is the industry that is so ably represented in Washington. With all these various government agencies regulating your operations—OPA, WPB, WFA, ODT, WLB, etc., etc., etc.,—the manufacturer who doesn't have someone on call in Washington to keep in touch with happenings and to present his case is like the individual who goes into court without a lawyer—and, I think, just about as foolish.

We find the N.F.A. very helpful in interpreting us to the industry and the industry to us.

In conclusion I just want to enter one final plea—*be patient with OPA!*

Ours is one awful task.

It is gravely important and exceedingly difficult.

The Administrator is charged with the task of maintaining a stable price level in the face of the greatest combination of influences to raise prices that the world has ever seen.

He is expected to repeal the law of supply and demand.

It's comparable to the task of causing a river to flow up-stream.

We are doing what *you* want done—striving to cushion our economy against the violent shock of inordinate price rise and fall which is the inevitable consequence of an uncontrolled economy in time of war.

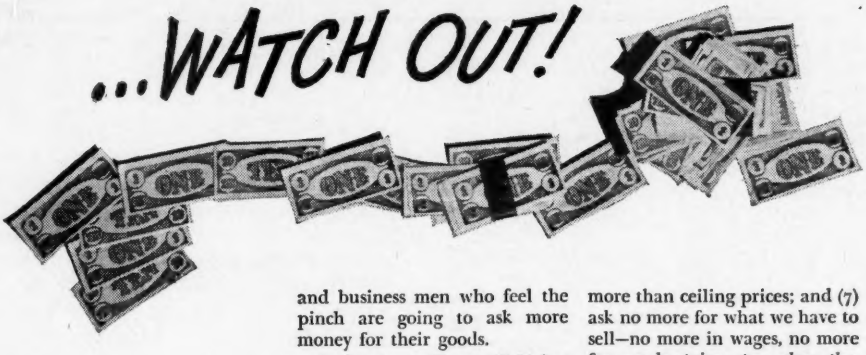
If you are critical, be constructively critical.

Don't harp on a thing that's done wrong unless you can show the way to do it right.

Give us the benefit of the doubt—and, whenever possible, the benefit of your experience.

IF YOU'RE MAKING MORE MONEY

...WATCH OUT!



THIS YEAR Americans are going to make—minus taxes—125 billion dollars.

But this year, due to the war, we are going to have only 80 billion dollars' worth of goods to spend this on.

That leaves 45 billion dollars' worth of money burning in our jeans.

If each of us should take his share of this 45 billion dollars (which averages approximately

$330 per person) and hustle out to buy all he could with it—what would happen is what happens at an auction where every farmer there wants a horse that's up for sale.

We would bid the prices of things up and up and up. Instead of paying $30 for a suit we're going to pay $45. Instead of $5 for a pair of shoes we're going to pay $8.

This bidding for scarce goods is going to raise prices faster than wages. Wages just won't keep up.

So what will people do?

U. S. workers will ask for more money. Since labor is scarce, a lot of them will get it. Then farmers and business men who feel the pinch are going to ask more money for their goods.

And prices will go *still higher*. And the majority of us will be in that same old spot again—only worse.

This is what is known as Inflation.

Our government is doing a lot of things to keep prices down . . . rationing the scarcest goods, putting ceiling prices on things, stabilizing wages, increasing taxes. But the government can't do the *whole job*. So let's see what *we* can do about it.

If, instead of running out with our extra dough, and trying to bid on everything in sight, we buy only what we absolutely need, we will come out all right.

If, for instance, we put this money into (1) Taxes; (2) War Bonds; (3) Paying off old debts;

(4) Life Insurance; and (5) The Bank, we don't bid up the prices of goods at all. And if besides doing this we (6) refuse to pay more than ceiling prices; and (7) ask no more for what we have to sell—no more in wages, no more for goods—*prices stay where they are now*.

And we pile up a bank account. We have our family protected in case we die. We have War Bonds that'll make the down payment on a new house after the war, or help us retire some day. And we don't have taxes after the war that practically strangle us to death.

Maybe, doing this sounds as if

it isn't fun. But being shot at up at the front isn't fun, either. You have a duty to those soldiers as well as to yourself. You *can't* let the money that's burning a hole in your pocket start setting the country on fire.

★ ★ ★

This advertisement, prepared by the War Advertising Council, is contributed by this magazine in co-operation with the Magazine Publishers of America.

KEEP PRICES DOWN!

Use it up
Wear it out
Make it do
Or do without

BUYERS' GUIDE • A CLASSIFIED INDEX TO ALL THE ADVERTISERS IN "THE AMERICAN FERTILIZER"

This list contains representative concerns in the Commercial Fertilizer Industry, Including fertilizer manufacturers, machinery and equipment manufacturers, dealers in and manufacturers of commercial fertilizer materials and supplies, brokers, chemists, etc.
For Alphabetical List of Advertisers, see page 33.

ACID BRICK
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.

ACID EGGS
Chemical Construction Corp., New York City.

ACIDULATING UNITS
Chemical Construction Corp., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.

AMMO-PHOS
American Cyanamid Co., New York City.

AMMONIA—Anhydrous
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Hydrocarbon Products Co., New York City.

AMMONIA LIQUOR
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Hydrocarbon Products Co., New York City.

AMMONIA OXIDATION UNITS
Chemical Construction Corp., New York City.

AMMONIATING EQUIPMENT
Sackett & Sons Co., The A. J., Baltimore, Md.

AMMONIUM NITRATE SOLUTIONS
Barrett Division, The, Allied Chemical & Dye Corp., New York City.

AUTOMATIC ELEVATOR TAKEUPS
Sackett & Sons Co., The A. J., Baltimore, Md.

BABBITT
Sackett & Sons Co., The A. J., Baltimore, Md.

BAGS AND BAGGING—Manufacturers
Bagpak, Inc., New York City.
Bemis Bro. Bag Co., St. Louis, Mo.
St. Regis Paper Co., New York City.
Textile Bag Mfrs. Association, Chicago, Ill.
Union Bag & Paper Corporation, New York City.

BAGS—Cotton
Bemis Bro. Bag Co., St. Louis, Mo.
Textile Bag Mfrs. Association, Chicago, Ill.

BAGS—Paper
Bagpak, Inc., New York City
Bemis Bro. Bag Co., St. Louis, Mo.
St. Regis Paper Co., New York City.
Union Bag & Paper Corporation, New York City.

BAGS (Waterproof)—Manufacturers
Bemis Bro. Bag Co., St. Louis, Mo.
St. Regis Paper Co., New York City.
Textile Bag Mfrs. Association, Chicago, Ill,
Union Bag & Paper Corporation, New York City.

BAGS—Dealers and Brokers
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

BAG CLOSING MACHINES
Bagpak Inc., New York City.

BAGGING MACHINES—For Filling Sacks
Atlanta Utility Works, East Point, Ga.
Bagpak, Inc., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.

BAG PILERS
Link-Belt Company, Philadelphia, Chicago.

BEARINGS
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

BELT LACING
Sackett & Sons Co., The A. J., Baltimore, Md.

BELTING—Chain
Atlanta Utility Works, East Point, Ga.,
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

BELTING—Leather, Rubber, Canvas
Sackett & Sons Co., The A. J., Baltimore, Md.

BOILERS—Steam
Atlanta Utility Works, East Point, Ga.

BONE BLACK
American Agricultural Chemical Co., New York City
Armour Fertilizer Works, Atlanta, Ga.
Huber & Company, New York City.

BONE PRODUCTS
American Agricultural Chemical Co., New York City
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

BORAX AND BORIC ACID
American Potash and Chem. Corp., New York City.
Pacific Coast Borax Co., New York City.

BROKERS
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Dickerson Co., The, Philadelphia, Pa.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
Keim, Samuel L., Philadelphia, Pa.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

BUCKETS—Elevator
Link-Belt Company, Philadelphia, Chicago
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

A Classified Index to Advertisers in "The American Fertilizer"

BUYERS' GUIDE

For an Alphabetical List of all the Advertisers, see page 33

BUCKETS—For Hoists, Cranes, etc., Clam Shell, Orange Peel, Drag Line, Special; Electrically Operated and Multi Power
Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.

BURNERS—Sulphur
Chemical Construction Corp., New York City.

BURNERS—Oil
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.

CABLEWAYS
Hayward Company, The, New York City.

CARBONATE OF AMMONIA
American Agricultural Chemical Co., New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.

CARS—For Moving Materials
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CARTS—Fertilizer, Standard and Roller Bearing
Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.

CASTINGS—Acid Resisting
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Duriron Co., Inc., The, Dayton, Ohio.

CASTINGS—Iron and Steel
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CEMENT—Acid-Proof
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.

CHAIN DRIVES—Silent
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CHAINS AND SPROCKETS
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CHAMBERS—Acid
Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.

CHEMICAL APPARATUS
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Duriron Co., Inc., The, Dayton, Ohio.
Monarch Mfg. Works, Inc., Philadelphia, Pa.

CHEMICALS
American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
Bradley & Baker, New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Huber & Company, New York City.

CHEMICALS—Continued
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Phosphate Mining Co., The, New York City.
Wellmann, William E., Baltimore, Md.

CHEMICAL PLANT CONSTRUCTION
Atlanta Utility Works, East Point, Ga.
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind

CHEMISTS AND ASSAYERS
Gascoyne & Co., Baltimore, Md.
Shuey & Company, Inc., Savannah, Ga.
Stillwell & Gladding, New York City.
Wiley & Company, Baltimore, Md.

CLUTCHES
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CONCENTRATORS—Sulphuric Acid
Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.

CONDITIONERS AND FILLERS
American Limestone Co., Knoxville, Tenn.
Dickerson Co., The, Philadelphia, Pa.
Phosphate Mining Co., The, New York City

CONTACT ACID PLANTS
Chemical Construction Corp., New York City

COPPER SULPHATE
Tennessee Corporation, Atlanta, Ga.

COTTONSEED PRODUCTS
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

CRANES AND DERRICKS
Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

CYANAMID
American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Jett, Joseph C., Norfolk, Va.
Wellmann, William E., Baltimore, Md.

DENS—Superphosphate
Chemical Construction Corp., New York City.
Stedman's Foundry and Mach. Works, Aurora, Ind.

Andrew M. Fairlie
CHEMICAL ENGINEER
22 Marietta Street Building ATLANTA, GA.
CABLE ADDRESS: "SULFACID ATLANTA"

SULPHURIC Acid Plants . . . Design, Construction, Equipment . . . Operation . . . Mills-Packard Water-Cooled Acid Chambers, Gaillard Acid-Cooled Chambers, Gaillard Acid Dispersers, Contact Process Sulphuric Acid Plants.

A Classified Index to Advertisers in "The American Fertilizer"

BUYERS' GUIDE

For an Alphabetical List of all the Advertisers, see page 33

DISINTEGRATORS
Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

DRYERS—Direct Heat
Sackett & Sons Co., The A. J., Baltimore, Md.

DRIVES—Electric
Link-Belt Company, Philadelphia, Chicago

DUMP CARS
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

DUST COLLECTING SYSTEMS
Sackett & Sons Co., The A. J., Baltimore, Md.

ELECTRIC MOTORS AND APPLIANCES
Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.

ELEVATORS
Atlanta Utility Works, East Point, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

ELEVATORS AND CONVEYORS—Portable
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

ENGINEERS—Chemical and Industrial
Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

ENGINES—Steam
Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.

EXCAVATORS AND DREDGES—Drag Line and Cableway
Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Link Belt Speeder Corp., Chicago, Ill., and Cedar Rapids, Iowa.

FERTILIZER MANUFACTURERS
American Agricultural Chemical Co., New York City.
American Cyanamid Company, New York City.
Armour Fertilizer Works, Atlanta, Ga.
Farmers Fertilizer Company, Columbus, Ohio.
International Minerals and Chemical Corporation, Chicago, Ill.
Phosphate Mining Co., The, New York City.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

FISH SCRAP AND OIL
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

FOUNDERS AND MACHINISTS
Atlanta Utility Works, East Point, Ga
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

GARBAGE TANKAGE
Wellmann, William E., Baltimore, Md.

GEARS—Machine Moulded and Cut
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

GEARS—Silent
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

GELATINE AND GLUE
American Agricultural Chemical Co., New York City.

GUANO
Baker & Bro., H. J., New York City.

HOISTS—Electric, Floor and Cage Operated, Portable
Hayward Company, The, New York City.

HOPPERS
Atlanta Utility Works, East Point, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

IMPORTERS, EXPORTERS
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Wellmann, William E., Baltimore, Md.

IRON SULPHATE
Tennessee Corporation, Atlanta, Ga.

INSECTICIDES
American Agricultural Chemical Co., New York City.

LACING—Belt
Sackett & Sons Co., The A. J., Baltimore, Md.

LIMESTONE
American Agricultural Chemical Co., New York City.
American Limestone Co., Knoxville, Tenn.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

LOADERS—Car and Wagon, for Fertilizers
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Acid Making
Atlanta Utility Works, East Point, Ga.
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.
Duriron Co., Inc., The, Dayton, Ohio.
Fairlie, Andrew M., Atlanta, Ga.
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

MACHINERY—Coal and Ash Handling
Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Elevating and Conveying
Atlanta Utility Works, East Point, Ga.
Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

MACHINERY—Grinding and Pulverizing
Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind

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MANGANESE SULPHATE
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MIXERS
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Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

NITRATE OF SODA
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Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
Bradley & Baker, New York City.
Chilean Nitrate Sales Corp., New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

NITRATE OVENS AND APPARATUS
Chemical Construction Corp., New York City.

NITROGEN SOLUTIONS
Barrett Division, The, Allied Chemical & Dye Corp., New York City.

NITROGENOUS ORGANIC MATERIAL
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
DuPont de Nemours & Co., Wilmington, Del.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
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NOZZLES—Spray
Monarch Mfg. Works, Philadelphia, Pa.

PACKING—For Acid Towers
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.

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Stedman's Foundry and Mach. Works, Aurora, Ind.

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Chemical Construction Corp., New York City.

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Virginia-Carolina Chemical Corp. (Mining Dept.), Richmond, Va.
Wellmann, William E., Baltimore, Md.

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PIPES—Chemical Stoneware
Chemical Construction Corp., New York City.

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Chemical Construction Corp., New York City.
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POTASH SALTS—Dealers and Brokers
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Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill
Jett, Joseph C., Norfolk, Va.
Schmaltz, Jos. H., Chicago, Ill.
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POTASH SALTS—Manufacturers
American Potash and Chem. Corp., New York City.
Potash Co. of America, New York City.
International Minerals & Chemical Corp., Chicago, Ill.
United States Potash Co., New York City.

PULLEYS AND HANGERS
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Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

PUMPS—Acid-Resisting
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Duriron Co., Inc., The, Dayton, Ohio.
Monarch Mfg. Works, Inc., Philadelphia, Pa.

PYRITES—Brokers
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., New York City.
Wellmann, William E., Baltimore, Md.

QUARTZ
Charlotte Chem. Laboratories, Inc., Charlotte, N. C

RINGS—Sulphuric Acid Tower
Chemical Construction Corp., New York City.

ROUGH AMMONIATES
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McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
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SHOVELS—Power
Link-Belt Company, Philadelphia, Chicago.
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Sackett & Sons Co., The A. J., Baltimore, Md.

SPRAYS—Acid Chambers
Monarch Mfg. Works, Inc., Philadelphia, Pa.

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STACKS
Sackett & Sons Co., The A. J., Baltimore, Md.

SULPHATE OF AMMONIA
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Armour Fertilizer Works, Atlanta, Ga.
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McIver & Son, Alex. M., Charleston, S. C.
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International Minerals & Chemical Corporation, Chicago, Ill
Phosphate Mining Co., The, New York City.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

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Monarch Mfg. Works, Inc., Philadelphia, Pa.

TALLOW AND GREASE
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TANKAGE
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
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Bradley & Baker, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Smith-Rowland, Norfolk, Va.
Wellmann, William E., Baltimore, Md.

TANKAGE—Garbage
Huber & Company, New York City.

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Sackett & Sons, Co., The A. J., Baltimore, Md.

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Charlotte Chem. Laboratories, Inc., Charlotte, N. C.

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UREA-AMMONIA LIQUOR
DuPont de Nemours & Co., E. I., Wilmington, Del.

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Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
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Number 6 in a Series of Progress Reports About Potash

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That something is Potash.

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	Units of $N\text{-}P_2O_5\text{-}K_2O$
890 lbs. Superphosphate (18% P_2O_5)	0 — 8 — 0
160 lbs. SOLUTION IV (37% N)	2.96 — 0 — 0
296 lbs. Sulphate of Ammonia (20.5% N)	3.04 — 0 — 0
654 lbs. Potash Salts, Conditioners, etc.	0 — 0 — 4
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